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The Problem of Maintaining Emission "Caps" Without Federal Government Involvement: A Brief Examination of the Chicago Climate Exchange and the Northeast Regional Greenhouse Gas Initiative

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THE PROBLEM OF MAINTAINING EMISSION "CAPS" IN CARBON TRADING PROGRAMS WITHOUT FEDERAL GOVERNMENT INVOLVEMENT: A BRIEF EXAMINATION OF THE CHICAGO CLIMATE EXCHANGE AND THE NORTHEAST REGIONAL GREENHOUSE GAS INITIATIVE

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Since the Kyoto Protocol of the Climate Change Convention entered into force in early 2005, the parties have been busily moving forward with their individual compliance efforts. Emission trading has been an important tool in such efforts. In Europe, a carbon emission market is now fully operational.[1]

The Bush Administration's rejection of the Kyoto Protocol has slowed the development of carbon markets in the U.S. Nevertheless, several private and state-sponsored programs have arisen in response to the potential business opportunities, the desire by many to take actions regardless of federal government recalcitrance, and the expectation that the future reality of climate change will force the U.S. to take on carbon trading eventually. Two of the best known programs are the private carbon market formed by the Chicago Climate Exchange and the multi-state Regional Greenhouse Gas Initiative (RGGI) in the northeastern U.S.

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1. *See* Council Directive 03/87, 03 O.J. (L275) 32 (EC). Several formal carbon emission credit exchanges have been created, including the European Climate Exchange, Climex Alliance, Nord Pool, and the European Energy Exchange. Kevin Morrison, *Carbon Emissions Exchange Launched*, FINANCIAL TIMES, Oct. 19, 2005, at 45. *See also* European Climate Exchange, http://www.europeancl imateexchange.com.

These efforts, as well as the European emissions market, follow closely in the footsteps of the sulfur dioxide cap and trade scheme created under the 1990 U.S. Clean Air Act Amendments. The federal acid rain program, however, was premised on the regulatory involvement of the federal government as the ultimate enforcer of a program-wide emissions cap on sulfur dioxide. Without regulatory support by the federal government,[2] can private and multi-state cap and trade programs effectively limit or reduce greenhouse gas emissions?[3] This essay will examine these questions for the carbon markets of both the Chicago Climate Exchange and the New England Regional Greenhouse Gas Initiative.[4]

I. CAP AND TRADE PROGRAMS

Cap and trade emissions trading programs, like the EPA's sulfur dioxide trading program, are among the best known market-based instruments to control pollution. Such programs set an overall limit on the amount of emissions that can be released by all of the program participants. They focus on verification and tracking of emis-

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2. In fact, the EPA has asserted that it lacks the legal authority to regulate carbon dioxide emissions. Memorandum from Robert F. Fabricant, EBA General, to Marianne L. Horinko, EPA Acting Administrator, EPA's Authority to Impose Mandatory Controls to Address Global Climate Change Under the Clean Air Act, (Aug. 28, 2003), *available at* http://www.epa.gov/airlinks/co2petitiongcmemo8-28.pdf. This essay was written and edited before the political changes brought by the 2006 Congressional elections. It is unclear how these changes will influence the federal government's short-term stance on climate change.

3. One variation of the issue recently arose for the European carbon market in May 2006 when the integrity of the program's overall emissions cap came into question. During that period of time, news emerged that there had been over-allocations of carbon allowances by various nations, resulting in more allowances program-wide than actual emissions. The price of carbon allowances dropped by over 50% before rebounding somewhat in mid-May. Fiona Harvey, *Energy: The Ups And Downs Of Trading: A Brief Introduction*, FINANCIAL TIMES, May 30, 2006, at 9.

4. Market-based programs to regulate pollution have encountered significant equity critiques. *See, e.g.* Stephen M. Johnson, *Economics v. Equity: Do Market-Based Environmental Reforms Exacerbate Environmental Injustice?*, 56 WASH. & LEE L. REV. 289 (1998). For example, they tend to be agnostic about environmental justice and other distributional equity issues. But pollution markets are likely to remain an important environmental policy tool for the foreseeable future, and they remain an important alternative to inaction on an important environmental problem. I do not address these issues here.

sion reductions credits, with little concern about how members use their credits or where they end up. Credits become fungible, and thus tradable, commodities.[5] In contrast, offset programs, for example, match up individual emissions reductions with specific emissions increases.

Under the EPA's sulfur dioxide trading program, each program participant is allocated a certain number of emission credits that may either be used to comply with applicable permit requirements or traded. Since individual companies face differing compliance costs for controlling sulfur emissions, trading effectively shifts emission control obligations to program participants with lower compliance costs. In turn, they are then effectively paid for these efforts by the high compliance cost participants. Overall compliance costs are reduced, and the program-wide emissions cap can be achieved with greater economic efficiency.

As the short-hand name of such programs indicates, the most important task is the proper regulation of the cap and trade of emission credits. The second component of cap and trade, the rules governing the assignment and trading of pollution credits, has been the subject of much commentary and discussion by scholars and practitioners alike. Past experience has shown, for example, that certain requirements, such as fungibility of allowances, transparency of the program, and consistency of rule application, must be satisfied in order for emissions trading to operate effectively.[6]

There has been much less discussion about the first component: the emissions cap. For the Clean Air Act's acid rain program, ongoing regulatory supervision by the federal government obviates concern about the issue. When a company does not have the requisite allowances for its emissions and has "blown" the cap, the EPA can take traditional enforcement actions to bring the company back into line. For the pioneering carbon markets of the Chicago Climate Exchange and the Regional Greenhouse Gas Initiative, however, fed-

5. For a description of various approaches, see UNITED NATIONS ENV'T PROGRAMME, AN EMERGING MARKET FOR THE ENVIRONMENT: A GUIDE TO EMISSIONS TRADING 9-10 (2002).

6. *See generally* OFFICE OF AIR AND RADIATION, U.S. ENVTL. PROT. AGENCY, TOOLS OF THE TRADE: A GUIDE TO DESIGNING AND OPERATING A CAP AND TRADE PROGRAM FOR POLLUTION CONTROL (2003), *available at* http://www.epa.gov/airmarkets/international/tools.pdf; ANNIE PETSONK, DANIEL DUDEK & JOSEPH GOFFMAN, ENVTL. DEF. FUND & PEW CENTER ON GLOBAL CLIMATE CHANGE, MARKET MECHANISMS AND GLOBAL CLIMATE CHANGE: AN ANALYSIS OF POLICY INSTRUMENTS (1998).

eral regulatory support is not likely to be forthcoming in the present political climate.

What does this bode for the efficacy of these carbon markets? How can one ensure that emissions do not go above the pre-specified limit? What does a "cap" mean when there is no federal regulatory involvement? These questions raise issues related to the monitoring and enforcement of the underlying formal carbon emissions limits of individual program participants.

II. THE CHICAGO CLIMATE EXCHANGE

As one alternative to a federally created carbon market, the Chicago Climate Exchange (CCX) is an example of a market created primarily by private entities. Commonly referred to as the "brainchild" of Richard Sandor, a former economist with the Chicago Board of Trade,[7] it has received much publicity since it was created. The CCX describes itself as a "voluntary pilot Greenhouse Gas emission reduction and trading program for North America"[8] that is "legally binding."[9] It seeks to:

a) demonstrate unambiguously that a cross-section of North American private and public sector entities can reach agreement on a voluntary commitment to reduce Greenhouse Gas emissions and implement a market-based emission reduction program;

b) establish proof of concept by demonstrating the viability of a multi-sector and multi-national Greenhouse Gas emission cap-and-trade program supplemented by Project-based emission offsets.[10]

The CCX began operating in 2003. Its members include not only large Fortune 500 companies such as Ford, DuPont, International Paper, American Electric Power, and BP America, but also smaller entities like Green Mountain Power and Central Vermont Public

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7. *Trading Hot Air: A New Approach to Global Warming*, THE ECONOMIST, Oct. 17, 2002, *available at* http://www.economist.com/PrinterFriendly.cfm?story_id=1392773 [hereinafter *Trading Hot Air*].

8. Chicago Climate Exch. Inc., Rule 1.0 Introduction, Rulebook (January 2004) (on file with author)[hereinafter CCX Rulebook].

9. Chicago Climate Exch. Inc., Overview and Benefits (2005), *available at* http://www.chicagoclimatex.com/about/pdf/CCX_Corp_Overview_2005.pdf.

10. CCX Rulebook *supra* note 9, at Rule 1.1 Goals of Chicago Climate Exchange.

Services, both Vermont electric utility companies.[11] Governmental entities participate as well, including the cities of Chicago, Berkeley, Oakland, and Aspen. In addition to full-fledged members, the CCX accepts participant members, which provide liquidity to the market and offset credits,[12] and associate members, which have no or negligible emissions but trade for reasons other than compliance with emissions reduction commitments.[13] The CCX allows non-business entities, primarily environmental organizations, to join as associate members. Some of them have purchased emissions allowances as a way of retiring them in much the same way some organizations have done in the acid rain trading program.

Even though the CCX calls itself a carbon exchange, it trades in all of the greenhouse gases covered by the Kyoto Protocol, not just carbon dioxide.[14] Similar to the Kyoto Protocol, all accounting for emissions credits is done in carbon equivalents.[15] Credits are tracked as "Carbon Financial Instruments" (CFI), each CFI accounting for 100 metric tons of carbon dioxide equivalents.[16] At the time of exchange inception, the 28 original members of the CCX accounted for approximately 700 million tons of carbon dioxide equivalents annually.[17]

Like other cap and trade emissions programs, the CCX seeks to achieve environmental gains by gradually reducing program-wide

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11. The initial group of participants included "some 50 companies in power generation, forest products, manufacturing, oil and gas, and agricultural sectors." Richard L. Sandor, *Creating New Markets: The Chicago Climate Exchange, in* THE NEW PUBLIC FINANCE: RESPONDING TO GLOBAL CHALLENGES (Inge Kaul & Pedro Conceicao eds., Oxford University Press 2006), *available at* http://www.thenewpublicfinance.org. Since then, another 45 entities have joined. *Id.*

12. Members of the Chicago Climate Exchange, http://www.chicagoclimatex.com/about/members.html, (last visited June 28, 2006). *See also* CCX Rulebook, *supra* note 8, at Rule 2.2.2 & 2.2.3. Offset credits are carbon credits generated by entities that are not CCX members, for example by carbon sequestration or other emissions reduction activities.

13. CCX Rulebook, *supra* note 8, at Rule 2.2.2.

14. *Id.* at Rule 2. *Compare* CCX Rulebook *supra* note 8, at Rule 6.3.1 Included Emissions, *and* CCX Rulebook *supra* note 8, at 7.3 Included Gases *with* Kyoto Protocol to the United Nations Framework Convention on Climate Change Annex A (1998), http://unfccc.int/resource/docs/convkp/kpeng.pdf.

15. CCX Rulebook *supra* note 8, at Rule 1.3 Definitions ("Carbon Dioxide Equivalent").

16. *Id.* at Rule 1.3 Definitions (defining "Carbon Financial Instrument").

17. Trading Hot Air, *supra* note 7.

and individual members' emissions limits. The baseline used to measure reductions is the annual emissions average from 1998 to 2001.[18] In 2003, the CCX capped emissions at 1% below the emissions baseline. Each subsequent year, emissions caps have been reduced by an additional 1% from the 2003 baseline.[19] The 2006 cap is 4% below the 2003 baseline.

The original pilot period of the CCX was 2003-2006,[20] after which the CCX was set to expire. However, CCX members have recently extended the operation of the pilot market period to 2010. For 2006 - 2010, emissions reductions are scheduled to progress at varying annual levels, resulting in an overall 6% reduction from 2003 baseline levels by 2010.[21]

There is an annual "true-up" period, the time of reckoning when CCX members must account for whether emissions in the previous year match the number of carbon allowances each member holds.[22] If a member's emissions exceed its individual emissions limit, it is given an opportunity to purchase additional allowances. However, the rules of the CCX impose limits on the purchase of offset and early action credits.[23]

How does the CCX ensure that members do not exceed their overall emissions cap? Since the federal government does not currently limit greenhouse gas emissions, participants voluntarily accept the emissions limits. There is no formal governmental role in the polic-

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18. *Id.* at 3; CCX Rulebook *supra* note 8, at Rule 6.5.1 General Provisions.

19. Chicago Climate Exch., Inc., Chicago Accord 3 (2004), *available at* http://www.chicagoclimatex.com/about/pdf/ChicagoAccord_050623.pdf; CCX Rulebook, *supra* note 8, at Rule 4.6 & table 4.1.

20. Chicago Climate Exch. Inc., *supra* note 19, at 2.

21. Chicago Climate Exch. Inc., *Chicago Climate Exchange,* http://www.chicagoclimatex.com/about/program.html (last visited June 28, 2006) (subsection entitled "CCX Emission Reduction Target" sets the following targets: 2007: 4.25%, 2008: 4.5%, 2009: 5%, 2010: 6%).

22. CCX Rulebook *supra* note 9, at Rule 4.7 True Up ("annual retirement . . . of . . . [allowances] in an amount equal to that Member's or Associate Member's owned Co2 equivalent emissions during the Compliance Year").

23. *Id.* at Rule 4.11.5 Use of Exchange Offsets and Exchange Early Action Credits. On the other hand, Rule 4.8 Economic Growth Provision (EGP) also limits the maximum emissions that are recognized for CCX purposes to 102 - 103% of the baseline emissions. In other words, "the maximum amount of net purchases of [carbon allowances] required for Compliance is limited to 3% of each CCX Member's or Associate Member's emission baseline during 2003, 4% . . . during 2004, 6% . . . during 2005 and 7% during 2006." *Id.* at Rule 4.8.

ing of compliance.[24] Rather, as an exempt commercial market under the Commodities Exchange Act,[25] compliance with CCX rules, contained in the Rule Book, is monitored by the CCX itself and by the National Association of Securities Dealers (NASD).[26]

This has given the widespread impression that the commitments undertaken by CCX members are unenforceable. In a recent description, it was said that "[u]nlike Kyoto, CCX has no teeth."[27] As a legal matter, that is incorrect.

Emissions control commitments are voluntarily undertaken by joining the CCX. However, subsequent compliance is arguably not voluntary at all. Because the CCX is a self-regulated, private entity, unsupervised by the CFTC or other regulatory body, it is, in essence, a private contractual arrangement. When entities become CCX members, they agree "to abide by the rules of the Exchange as provided in the CCX *Rulebook*."[28] Violations of CCX commitments

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24. *Id* at Rule 1.2 Regulatory Status.

25. Commodities Exchange Act, 7 U.S.C. § 2(h)(3)(2002). *See also* Commodity Futures Trading Comm'n., *Exempt Commercial Markets That Have Filed Notice with the CFTC*, http://www.cftc.gov/dea/dea_ecm_table.htm (last visited July 7, 2006). Exempt commercial markets are markets that utilize "electronic trading facilities providing for the execution of principal-to-principal transactions between eligible commercial entities in exempt commodities." Commodity Futures Trading Comm'n., *Exempt Commercial Markets*, http://www.cftc.gov/dea/deaxcomback ground.htm; *see also* Commodities Exchange Act, 7 U.S.C. § 2(h)(3)-(5) (2002).

26. CCX Rulebook *supra* note 8, at Rule 1.2 Regulatory Status. NASD "assists in the registration, market oversight, and compliance procedures for CCX members." Chicago Climate Exch., Inc., *supra* note 9; Press Release, Nat'l Ass'n of Sec. Dealers, NASD and the Chicago Climate Exchange Reach Historic Agreement (Sept. 23, 2002), *available at* http://www.nasd.com/PressRoom/NewsReleases/2002NewsReleases/NASDW_002911. *See also* CCX Rulebook *supra* note 8, at Rule 1.3 Definitions ("Provider or Regulatory Services" to audit emission baselines, "market oversight and compliance procedures," and prevent "fraud and manipulation").

27. Jeff Goodell, *Capital Pollution Solution?*, N.Y. TIMES MAG., July 30, 2006, at 34.

28. Authorization/Agreement, Chicago Climate Exchange (CCX) Application for Membership 5, rev. 8/04/05 v4 (on file with author). *See also* CCX Rulebook *supra* note 8, at Rule 2.7.1 General Provisions ("Each Registry Account Holder shall abide by the provisions established in [the CCX] *Rulebook*."); Rule 2.7.2 Emissions Baselines, Monitoring, Reporting and Reduction Schedules ("Subsequent to each Compliance Year, each Member shall surrender any combination of allowable Carbon Financial Instruments in an amount equal to the Member's Owned Emissions . . . occurring during the Compliance Year."); Rule 2.7.3 Fulfillment of Obligations ("Each Registry Account Holder shall be fully responsible for the timely performance of all obligations and contracts entered into through the

would thus be enforceable as breaches of contractual obligations and lead to corresponding forms of liability. In other words, the CCX is as "voluntary" as any contract commitment is. CCX commitments may be made voluntarily, but they become legally binding once assumed.

What happens when a CCX member fails to limit its carbon emissions as required and then refuses to purchase the requisite carbon allowances? The rules of the CCX do not explicitly address the consequences of non-compliance with emissions limits. Presumably, the procedures governing Exchange rule violations more generally would be triggered.[29] These provisions provide for punitive sanctions, including fines and suspension of trading privileges, when any CCX rules are violated. The ultimate sanction is termination of CCX membership.[30] Since compliance with emissions limits and true-up are a Rulebook requirement, these provisions provide a mechanism for deterring or responding to non-compliance.

Because the CCX is a privately held company, much information about its operations is not publicly available. Thus, it is not clear whether the sanctions mechanism has ever been triggered. But given the small size and voluntary membership, consisting of companies that have a commitment to reducing their own greenhouse gas emissions, it is probably safe to assume that the mechanism has not been used.[31] Even if an emissions limit is missed, the true-up period would provide ample opportunity to purchase the necessary carbon

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CCX Trading Platform."); Rule 2.9 Prohibited Conduct ("No Registry Account Holder shall: (4) violate or fail to conform to the rules of the Exchange, or the Applicable Laws and regulations.").

29. CCX Rulebook *supra* note 8, at Rule 2.10 Exchange Rules Violations. *See also* CCX Rulebook *supra* note 8, at Rule 1.3 Definition ("Compliance" is the status of being in conformance with the provisions established in this *Rulebook.* The term "in compliance" is also used to describe the status of a CCX Member or Associate Member that has surrendered Carbon Financial Instruments to CCX in an amount equal to its emission.).

30. CCX Rulebook *supra* note 8, at Rule 2.11 ("If it appears that a Registry Account Holder . . . cannot demonstrate its ability to achieve compliance . . . the Executive Committee may impose any restriction upon the operations of the Registry Account Holder as deemed appropriate in the circumstances. Each Registry Account Holder failing or refusing to comply promptly with a restriction imposed by the Chief Executive shall be subject to penalty, which may include suspension of all privileges, or termination of membership.").

31. There has also been a suggestion that the baseline was set such that it would provide some members with ample protection against any possibility of exceedance. *See* Goodell, *supra* note 27.

credits. At prices fluctuating between $1-4 per ton of carbon equivalent, that would seem to be a minor inconvenience for any company committed to enhancing or maintaining its green reputation.[32] For 2003 and 2004, the CCX has reported the successful reduction of program-wide carbon emissions by over 8% and over 13%, respectively, below the relevant emissions reduction objectives.[33]

Nevertheless, it would be premature to hail the CCX's success – so far – as a harbinger of the future viability and effectiveness of private carbon trading programs more generally. Several issues critical to the implementation of an environmentally effective emission trading program remain unresolved. For example, questions have been raised about how the CCX measures credits and ensures the additionality of emissions reductions.[34] The Economic Growth Provisions of the CCX Rule Book also limit the total extent to which a CCX member's non-compliance is recognized by the Exchange.[35] Thus, the maximum CO2 equivalent emissions that will be recognized for the purpose of True-up by each CCX Member or Associate Member will be 102% of that Member's or Associate Member's Baseline Emission level during each of the years 2003 and 2004, and 103% of its Baseline during each of the years 2005 and 2006.

When combined with the CCX Emission Reduction Schedule, the Economic Growth Provision implies that the maximum amount of net purchases of Exchange Allowances and/or Exchange Offsets . . . required for Compliance is limited to 3% of each CCX Member's and Associate Member's emission baseline during 2003, 4% of its baseline during 2004, 6% of its baseline during 2005 and 7% of its baseline during 2006.[36]

Depending on the particular year, no CCX member can be considered to be out of compliance by more than 3 to 7%. Any non-compliance above those values would be ignored by the CCX, limit-

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32. Furthermore, CCX members must satisfy minimum financial requirements, assuring a minimum degree of financial liquidity of the Exchange members. *See* Eligible Commercial Entity Questionnaire, Chicago Climate Exchange (CCX) Application for Membership 6-7, rev. 8/04/05 v4.

33. Chicago Climate Exch., Inc., *2004 Final Compliance Report as of Sept. 13, 2005, available at* http://www.chicagoclimatex.com/environment/2004finalComplianceReports.html.

34. *See, e.g.*, Goodell, *supra* note 27 (discussing questions of offset additionality and integrity of trading programs).

35. CCX Rulebook *supra* note 8, at Rule 4.8.

36. *Id.* Similar types of limitations and special exemptions apply to forest product companies and electric energy producers. *Id.* at Rules 4.8 & 4.9.

ing the compliance pressure once non-compliance has crossed a certain threshold.

There are additional, less-readily addressable problems. If private trading arrangements become more widespread, membership will inevitably grow to include companies whose voluntary commitment to addressing global climate change may be much less serious than that of current CCX members. There is also no assurance that carbon prices will always stay low. To prevent opportunism, bad faith, or other forms of deliberate non-compliance, the necessity for a credible and effective set of non-compliance sanctions would become much more important. In such circumstances, would the CCX compliance provisions provide adequate deterrence? The CCX's present structure suggests that they might not for two reasons: 1) lack of sufficient coerciveness, and 2) lack of sufficient certainty.[37]

With respect to sanctions sufficiency, no information is available about the range of fines that have been imposed, if any, nor of any other consequences. Thus, it is unclear whether the compliance mechanisms will be sufficient to induce compliance by businesses that care little about the environment or their environmental image.

The operational success of the CCX also provides little guidance to future behavior of current members if conditions were to change significantly. For example, with carbon credit prices relatively low, the price of "true-up" through allowance purchase has been low. If carbon prices and compliance costs rise significantly, will the commitment of CCX members to their green image still provide sufficient pressure to comply with the limits? As the collapse of large corporations like WorldCom and Enron and well-respected accounting firms like Arthur Anderson indicate, public opinion and the marketplace cannot always be relied upon to assure good behavior and corporate integrity.

If non-compliance is to be expected under certain circumstances, can the CCX itself be expected to properly police its members in all relevant situations? The question goes to the issue of sanctions certainty. The CCX Rulebook allows for non-compliance sanctions ranging from fines and suspension of trading privileges to expulsion. Arguably, the CCX has an institutional interest in preventing compliance failures and maintaining the integrity of the market. Failure

37. *See generally* Tseming Yang, *International Treaty Enforcement as a Public Good: The Role of Institutional Deterrent Sanctions in International Environmental Agreements*, MICH. J. INT'L L. (forthcoming 2006).

to respond to significant instances of non-compliance could attract attention by regulators and deplete its goodwill and environmental reputation. The practical consequence would also be to lessen the utility of Exchange participation to members interested in promoting their green image.

But it is questionable how readily such sanctions, especially severe ones, can be deployed. For example, it is not clear how the most severe sanction, expulsion from the CCX, is always a credible deterrent. If carbon credit prices rise to such high levels that non-compliance with true-up becomes attractive, would CCX membership still be desirable? Arguably, under such circumstance, expulsion might not be viewed as punitive in nature. More importantly, even if other punitive sanctions remain available, for example significant monetary fines, would the CCX actually exercise that authority?

Like other stock exchanges, the CCX is governed in large part by its members. CCX members might be reluctant to support the imposition of harsh sanctions, even if appropriate, lest they be on the receiving end of such sanctions one day. Furthermore, imposition of harsh punitive sanctions could trigger resignations from the Exchange and deter new members from joining. If a significant number of members chose to leave the CCX, the continued viability of a voluntary carbon market would be in jeopardy. In other words, there is the very real possibility that considerations of individual self-interest and the institutional interest of the CCX in its continued existence could lead to inconsistent or less than full application of CCX enforcement authority.

Can the CCX overcome potential enforcement difficulties? Some of them could be circumvented through private (member-initiated) judicial or arbitral enforcement actions. For example, an environmental organization that joined the CCX primarily to retire carbon allowance would ordinarily not be subject to the conflicting considerations of self-interest that can impede private enforcement efforts. Unfortunately, no CCX Rule Book provisions address such a possibility. Rather, the Rule Book presumes that Exchange rule violations will primarily, maybe even exclusively, be dealt with by the CCX itself.[38] The Rule Book also does not specify whether lack of transactional privity would be a bar to such actions.

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38. CCX Rulebook *supra* note 8, at Rule 2.10 Exchange Rule Violations (setting out investigation and resolution process for an alleged violation by CCX);

If the Rulebook allowed such actions, it is unclear what the measure of damages would be. The reduced value of carbon allowances due to the defendant's failure to true-up or otherwise comply with Exchange requirements may be one answer. But would it be enough to encourage private enforcement actions?

These problems must be resolved in order for a private market to be a credible regulatory arrangement. Otherwise, the CCX will remain dependent on the good-will and voluntary commitment of its participants, little more significant as a curiosity and experiment than a true model for effective carbon markets.[39]

III. THE NORTHEAST REGIONAL GREENHOUSE GAS INITIATIVE

The other alternative to federal regulation is the creation of carbon markets by the states. The most significant effort in this regard is arguably the Northeast Regional Greenhouse Gas Initiative – RGGI. The RGGI is currently made up of 7 states: Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont. Massachusetts and Rhode Island, originally part of the group, backed out at the last minute.

The RGGI's overall purpose is to implement a "regional CO2 emissions budget and allowance trading program that will regulate CO2 emissions from fossil-fuel-fired electricity generating units having a rated capacity equal to or greater than 25 megawatts."[40] The overall initial carbon budget of the RGGI, set to go into effect on January 1, 2009, will be approximately 121 million tons of carbon.[41] Overall carbon emissions are to be reduced by 10% by 2018.

Rule 2.12 Application of Rules and Jurisdiction (Exchange participants are "subject to the jurisdiction of the Exchange with respect to any and all matters arising from, related to, or in connection with, the status, actions or omissions"); Rule 2.14 Dispute Resolution (requiring arbitration of disputes regarding operation of the Exchange at the discretion of the CCX); Rule 5.5 CCX Terms and Conditions to Govern All Transactions ("Every transaction entered into by a CCX Registry Account Holder is governed by the provisions contained in this *Rulebook*."); Rule 4.4 Nature of Transfers in CCX.

39. Goodell, *supra* note 27, at 34.

40. Regional Greenhouse Gas Initiative: Memorandum of Understanding 2 (Dec. 20, 2005), *available at* http://www.rggi.org/docs/mou_12_20_05.pdf [hereinafter RGGI MOU].

41. *Id.* at 2-3.

Each member state will have its own individual state-wide carbon dioxide emissions cap.[42]

The RGGI is very much a work-in-progress. It is anticipated that individual power plants will be given carbon allowances and will be able to trade allowances among all RGGI states.[43] The RGGI proposes the creation of a non-profit corporate entity, aptly dubbed the "Regional Organization" to provide administrative support and supervision.[44] The Regional Organization is expected to provide technical assistance services, function as a deliberative forum, track emissions and allowances, and develop and implement offsets. It will, however, have "no regulatory or enforcement authority with respect to the Program."[45]

The integrity of carbon allowance trading is to be ensured by state reciprocity provisions that allow for recognition of allowances generated in member states and by functionally equivalent state regulatory schemes that will guarantee the fungibility of carbon allowances among the program states. Actual coordination of the RGGI implementation policies and operational rules to ensure such equivalence is primarily accomplished by the promulgation of a Model Rule which is to "serve as the framework for the creation of necessary and/or regulatory authority to establish the [CO2 trading] Program" in each state.[46]

The draft Model Rule was released on March 23, 2006 for public comment. It includes provisions addressing monitoring of the carbon emissions limits of individual power plants, including the potential penalties for emissions in excess of carbon allowances.[47] Thus, the RGGI overcomes some of the carbon cap enforcement problems by involving state regulatory authorities. Each state is committed to exercising or gaining the necessary regulatory authority to monitor and enforce non-compliance of individual power plant emissions limits.[48]

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42. *Id.*
43. *Id.*
44. *Id.* at 7.
45. *Id.* at 7-8.
46. *Id.* at 6-7.
47. Regional Greenhouse Gas Initiative, Public Review Model Rule Draft, art. XX-6.5 (2006) *available at* http://www.rggi.org/docs/model_rule__redline_8_15_06.pdf.
48. RGGI MOU *supra* note 40 at 6-7.

The draft Model Rule, however, does not address the question of how the overall carbon emissions cap is to be maintained, should one of the member states fail to achieve its state-wide emissions limit. As a result, the RGGI creates no enforcement powers with respect to the overall regional carbon budget, the regional cap.

Like the CCX, the RGGI contains an escape valve in anticipation of one cause of non-compliance: the rise of the cost of carbon credits to higher than expected levels. If carbon allowance prices exceed $7/ton, the RGGI expects to liberalize the use of offset credits.[49] However, if carbon prices were to continue rising regardless of such measures, the possibility of non-compliance might become significant.

Lack of enforceability was built-in by design since a binding multi-state cooperative agreement might require Compact Clause approval by Congress.[50] It is still uncertain whether the RGGI has successfully evaded that requirement. Under the U.S. Supreme Court's interpretation, only inter-state agreements that increase the "political power or influence" of a state and thus encroach on the "full and free exercise of the Federal authority" are subject to the Compact Clause. [51] The Court's explanation in *U. S. Steel Corp. v. Multistate Tax Comm'n*, states that the "relevant inquiry must be one of impact on our federal structure," indicating that the Compact Clause reaches agreements that are "formal as well as . . . informal."[52]

For example, in *Northeast Bancorp v. Bd. of Governors of Fed. Reserve Sys.*,[53] the Court found a New England multi-state agreement regarding regional banking to fall outside of the scope of the Compact Clause. The agreement in that case contained reciprocity provisions and imposed regional limitations, but lacked a joint body with regulatory authority. It also maintained state legislative authority to unilaterally withdraw or otherwise legislatively modify any of

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49. *Id.* at 5-6.

50. U.S. Const. art. I, § 10, cl. 3 ("no state shall, without Consent of Congress, . . . enter into any Agreement or Compact with another State").

51. Virginia v. Tennessee, 148 U.S. 503, 520 (1893) ("The compact or agreement will then be within the prohibition of the Constitution or without it, according as the establishment of the boundary line may lead or not to the increase of the political power or influence of the States affected, and thus encroach or not upon the full and free exercise of Federal authority.").

52. 434 U.S. 452, 470-71 (1978).

53. 472 U.S. 159, 175-76 (1985).

the regional requirements.[54] As a result, the Court found no increase in the states' power vis-à-vis the federal government.[55] RGGI seems to seek cover under the *Northeast Bancorp* analysis by providing the Regional Organization no regulatory authority and relying on the reciprocity provisions of the draft Model Rule.[56]

However, the RGGI's carbon emission trading scheme is also different from the regional banking arrangement approved of by the Supreme Court. Since the Bush Administration has rejected the Kyoto Protocol and declared itself powerless to regulate carbon dioxide pursuant to the Fabricant memorandum,[57] the federal government has essentially rejected any federal effort to limit carbon emissions by government regulation. The RGGI's effort could be seen as an end-run around that federal government policy. Rather than constituting an effort to fill in a regulatory gap left by the Clean Air Act, the RGGI could be interpreted by emissions limits opponents as an attempt to defy federal government policy. Put differently, the RGGI might be seen as an attempt to extend the regulatory reach of individual states beyond commerce and markets bounded by their individual state jurisdictional boundaries to a regional market that encompasses the territories of the member states as a whole. In effect, regardless of state environmental officials' attempts to structure the organization, the RGGI could be viewed as a potential usurpation of the federal government's power to leave carbon emissions unregulated on a scale beyond the individual state level and subject to the forces of national and regional markets.

Regardless of the ultimate merits of the Compact Clause issue, the present structure of the RGGI leaves compliance with individual state-wide emissions targets only to political accountability. The political process, rather than any legal compulsion is the ultimate sanctions process. Even though compliance by individual power plants will be subject to control by state regulators, thereby avoiding the difficulties of maintaining state-wide emission caps, defection

54. *Id.* at 175.

55. "In view of the Douglas Amendment to the BHCA, the challenged state statutes which comply with that Act cannot possibly infringe federal supremacy. . . . We do not see how the statutes in question either enhance the political power of the New England States at the expense of other States or have an "impact on our federal structure." *Id.* at 176.

56. *See, e.g., U.S. Steal Corp.,* 434 U.S. at 472 (showing that the creation of a multi-state administrative body, such as the Regional Organization, has been found permissible by the U.S. Supreme Court).

57. *See* Fabricant, *supra* note 2.

from the RGGI by any of the most significant member states (for example, New York) is likely to influence (and degrade) the political viability of carbon regulatory schemes in the other states. In fact, if compliance with state-wide carbon limits were to become a drag on the economy or a state's electorate brought significantly less environmentally committed individuals to political leadership office, it is questionable whether the political will to participate in the RGGI could be maintained.

IV. PROMOTING OTHER TYPES OF MARKETS TO CONTROL GREENHOUSE GASES

These efforts raise one more general thought: most of the efforts of states have focused on the development of stand-alone carbon trading programs. However, there are other market-promoting measures that states can take short of creating a *sui generis* emission trading regime. For example, states could provide broader regulatory support for existing private carbon markets such as the CCX. One could imagine state governments strengthening or increasing public oversight of private carbon exchanges.

Alternatively, states could also strengthen the hand of the companies who are trying to cultivate a positive environmental image and reputation as a business asset or competitive advantage. States could help to make a green reputation more valuable and meaningful by policing misuse or unfair use, including its use to deceive or mislead consumers. Such efforts would be little different from the regulation of the organic food label, which has spawned a lucrative industry and other environmentally conscious labeling and consumption habits.

V. CONCLUSION

The attraction of markets for reducing pollution is great. The absence of the federal government in regulating carbon markets, however, makes their effective implementation difficult. That does not make carbon markets, including cap and trade programs, infeasible. It does, however, create obstacles to the effective maintenance of overall emissions cap. In the end, without deliberate design efforts focused on ensuring environmental efficacy, such trading schemes will likely be more tools for entrepreneurial individuals to take advantage of business and political opportunities than to solve the problem of global climate change.